

How to Get From Here to There



By Rick Dantzler, CRDF chief operating officer

I spoke at the recent Florida Citrus Show in Fort Pierce and had some blunt words for those of us charged with eradicating HLB or making it functionally irrelevant. Despite a Herculean effort, what we have to show for it in the terms most important to the industry (yield, the number of growers and the number of citrus acres) is not good enough, so we have to do things differently. I then outlined several things the Citrus Research and Development Foundation (CRDF) intends to do differently.

How are we going to eradicate HLB or make it functionally irrelevant? I've written about possibilities before, but please know this is a question we at CRDF often discuss to ensure that we are working toward answering this question and not just working.

Our strategy at CRDF is to fund projects intended to help you hang on until a solution that puts HLB in the rearview mirror is secured by our funding of long-term projects. Here is one scenario that lays out how we could get from here to there:

Peptides are, in my opinion, the next big thing. In pharmacology, peptides have done much to advance human health. Think insulin, for example, which is a peptide.

CRDF is assisting a company in registering a peptide that has been shown to help produce more and better fruit in dozens of field trials in Florida. Because it can be sprayed, it will be available to all growers so long as pricing doesn't preclude its usage. This application is pending Environmental Protection Agency (EPA) approval. Our goal is to get it approved as quickly as possible so it can begin helping growers.

Some peptides have been shown to work in field tests but are likely too expensive to be sprayed or maybe even injected. For these, getting EPA approval of the citrus tristeza virus (CTV) vectoring system is critical. With this, CTV could be used to produce the peptide in trees. This is likely two to three years away and would be used in new nursery trees. CTV would allow these peptides to be part of an intermediate solution.

There are other peptides that are believed to work only if injected. I believe strongly that trunk injection will work and can be made to do so cost effectively. This optimism is based not just on grower anecdotes from their own tinkering, but also from conversations I have had with companies that have devices we intend to quickly test. It will also work with more than just peptides, and CRDF has identified several promising substances it wishes to see tested.

CRISPR/Cas9 gene editing offers a non-GMO solution. Scientists at the University of Florida Institute of Food and Agricultural Sciences and other researchers are making good progress in being able to use CRISPR/Cas9 to edit citrus, hopefully for resistance to HLB. This could be accomplished within one to two years. However, it would be several years before these trees would be in the field and producing fruit.

These are two scenarios that could get us from here to there.



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